

Preservative solutions on conservation of cut lilies flower

M.N. de S. Santos, A.M. Mapeli

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Abstract

Lilium pumilum is a species with high ornamental value due to the inflorescence colorfulness and fully blooming flowers. Plants are sold in pots or as cut flower, but little is known about its responses to preservative solutions. Freshly cut inflorescences, containing flowers and buds in different stages (point of commercialization), were treated as follows: T1) distilled water; T2) sucrose (20 g/L); T3) citric acid (100 mg/L); T4) silver nitrate (AgNO_3 – 0.2 mM); T5) silver thiosulphate (STS – 0.2 mM); T6) sucrose + citric acid; T7) AgNO_3 + Sucrose; T8) sucrose + STS; T9) AgNO_3 + citric acid; T10) STS + citric acid; T11) STS + citric acid + sucrose; T12) AgNO_3 + sucrose + citric acid. Daily, the flower development and senescence was determined (E0 – green bud flower; E1 – bud showing the first petal color; E2 – orange bud; E3 – semi open bud; E4 – open flower; E5 – beginning of flower senescence and E6 – wilted flower), length and diameter of the buds, fresh mass and flower longevity. Diameter of *L. pumilum* flowers ranged from 18.5 to 14.8-fold to treatments T3 and T5, respectively, in relation to control. However, reduction of 17.1-fold was verified to treatment T4, T8, T11 and T12 when compared to T1. Independently of change, this occurred about 24 hours after storage in preservative solution. The longevity was 1.6 days higher for treatments T8 and T11 than T2, T5 T6, T10 and T12, and 3.21 days in relation to treatments T1, T3, T4, T7 and T9. *L. pumilum* buds showed major percentage of opening flower on advanced stages, independently of preservative solution. Change of weigh can improve by recovery of turgescence after cutting independently of the preservative solution. Treatments containing AgNO_3 induced stem and leaves yellowing after three days from harvest. Thus, for this flower, the use of vase solutions containing sucrose+STS or STS+ citric acid+ sucrose is recommended.